

REMARKS

In the Office Action, the Examiner noted that claims 11 - 20 are pending in the application, and claims 11-20 are rejected. The Examiner's rejections are traversed below.

REJECTION UNDER 35 U.S.C. § 102(e)

The Examiner has rejected claims 11-18 under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent 6,137,893 to Michael et al. (hereinafter, "Michael"). The Examiner maintains the rejection citing Figures 1A-1D of Michael for teaching at least one of the blades having a non-zero skew and non-zero spiral. In his comments, the Examiner explains that in Michael, the position of the blades implicitly result in the non-zero spiral and non-zero skew limitations of the present invention.

The targets disclosed by Michael have boundary contours that are represented as straight lines and line segments – in fact, they are exactly those described as prior art in the background of the Applicant's specification. The targets disclosed by Michael are "simple polygons such as squares and diamonds ... that are almost impossible to manufacture." These straight lines and line segments simply are not boundary contours representing a "non-zero skew" or a "non-zero spiral" as claimed by the Applicant.

Accordingly, the prior art does not teach or disclose rendering targets on an object characterized by a fan shape with at least one of a plurality of blades having a contour boundary representing a non-zero spiral or a non-zero skew so as to not cause grid degeneracy and size self-similarity. Targets rendered with non-zero spiral and/or non-zero skew boundary contours, as claimed by Applicant, eliminate straight radial features that result in grid degeneracy and size self-similarity when searching for the target so as to provide a pose of the object.

"A claim is anticipated only if each and every element set forth in the claim is found, either expressly or inherently described in a single prior art reference" Verdegaal Bros. v. Union Oil Co. of California, 814 F.2d 628 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). Since Michael teaches targets having straight radial features that result in grid

degeneracy and size self-similarity when searching for the target so as to provide a pose of the object, the claimed element requiring non-zero spiral or non-zero skew cannot be found in the reference.

Accordingly, with respect to claims 11 and 15, the Applicant respectfully asserts that the rejection has been overcome, and the claims are at least allowable. With respect to claims 12-14, and 16-18, that depend from claims 11 and 15 respectively, for reasons analogous to those argued above, the dependent claims are also allowable.

REJECTION UNDER 35 U.S.C. § 103(a)

The Examiner has rejected claims 19, and 20 under 35 U.S.C. § 103(a) as being unpatentable over Michael and further in view of U.S. Patent 5,125,035 to McCarthy (hereinafter, "McCarthy").

The Examiner cites Michael for teaching the concept of rendering a target characterized by a fan shape on an object and providing a pose of the object. McCarthy is cited ostensibly for teaching the Applicant's claimed limitation of including at least one hole on at least one of the plurality of blades. Applicant respectfully asserts that the combination of Michael and McCartney does not render the claimed subject matter obvious to one of ordinary skill in the art.

Regarding claims 19 and 20, the Applicant asserts the same argument as stated above with respect to claims 11 and 15. Michael fails to teach or suggest targets rendered with non-zero spiral and/or non-zero skew boundary contours, as claimed by Applicant, so as to eliminate straight radial features that result in grid degeneracy and size self-similarity when searching for the target so as to provide a pose of the object. The method of locating cooling holes in turbine blades disclosed by McCarthy, combined with the teachings of Michael, fail to teach or suggest to one of ordinary skill in the art the method claimed by Applicant.

According to the MPEP, to establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill

in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. MPEP § 2142. Since the combination of Michael and McCarthy fail to teach or suggest all the claim limitations, the Applicant respectfully asserts that *prima facie* obviousness has not been established, and therefore, claims 19 and 20 are allowable.

CONCLUSION

In view of the above remarks, Applicant respectfully requests withdrawal of all rejections and allowance of the claims pending in the application. The Examiner is invited to telephone the undersigned Applicant's Attorney to facilitate advancement of the present Application.

Respectfully submitted,



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